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ABSTRACT

It has been suggested that training in altruistic behavior would last longer if the change were self-initiated. To compare methods of increasing altruistic behavior, 103 male college students were randomly assigned either to self-record their altruisitc behaviors, to read about helping and caring, or to a control group. All took the Minnesota Multiphasic Personality Inventory and were peer-rated and rated themselves (pre- and posttest) on a measure of altruisitc attitudes. On six unobstrusive measures, self-recorders had significantly more altruistic behaviors than controls and marginally more than readers. Self-recorders gained significantly more on the altruistic attitudes measure (posttest versus pretest). Peer rating on the altruism scale was significantly correlated with mean daily amount of self-recorded altruistic behavior. The findings support the notion that self-recording is an effective means of increasing altruistic behavior. (JAC)

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Self-recording as a Method of Increasing Altruistic Behavior

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Abstract

A seven-week field study of altruistic behavior was conducted using 103 male college students as subjects. Members of three randomly assigned groups either self-recorded their altruistic behaviors or read on helping and caring or were controls. All took the MMPI and were peer-rated and rated themselves (pre- and posttest) on a measure of altruistic attitudes. On six unobtrusive measures, self-recorders had significantly more altruistic behaviors than controls and marginally more than readers. Self-recorders gained significantly more on the altruistic attitudes measure (posttest versus pretest). The MMPI D scale was significantly correlated with change in the amount of self-recorded altruistic behavior ($r = -.36$). Peer-rating on the altruism scale was significantly correlated with mean daily amount of self-recorded altruistic behavior ($r = .38$). The results suggest that self-recording is an effective means of increasing altruistic behavior, that self-recording leads to an increase in one's self-rating in altruism, and that there are relationships between self-esteem and change in amount of self-recorded altruistic behavior and between peer-rating and mean daily amount of self-recorded altruistic behavior.

Self-recording as a Method of Increasing Altruistic Behavior

Kanfer (1979) pointed to the need for "the development of an appropriate model for enhancement of altruistic behavior by providing supplemental motivation that is not response and situation specific" (p. 235) . He also believed that training in altruistic behavior would be quicker and longer lasting when the person saw the change as self-initiated. In a society witnessing increased self-concern, individualism, and autonomy, "egocentrically motivated" altruism could have a potential therapeutic value in addition to making a contribution to individual satisfaction and group survival.

Grusec (1981) has called for the intervention of society in fostering altruistic behavior. She noted techniques used to promote altruistic behavior in children: reinforcement, punishment,modeling, exhortation, direction, role playing, empathy training, nurturance, and prosocial attribution. She suggested that general exhortation, attribution, and empathy training might lead to cross-situational altruism in children. Research on altruistic behavior has focused on children with little work being done in this area with older subjects. Studies involving older subjects have tended to be situation specific.

The present study considered several questions: 1) Can a method of increasing altruistic behavior in older (post-high school age) subjects be developed? 2) Is there a relationship between altruistic

behavior and later self-rating? 3) Can a widely used standardized personality inventory (the M.M.P.I.) predict who are the more likely altruists? 4) Do self-rating and peer-rating predict altruistic behavior?

Staub (1979, 1981) indicated that actual participation in positive behavior teaches children to behave positively. Such behavior was increased on later occasions (Grusec, Kuczynski, Rushton, & Simutis, 1978; Harris, 1972; Rosenhan & White, 1967; Staub, 1981).

A method that has led to behavioral change is self-observation. Shapiro and Zifferblatt (1976) noted the effectiveness and necessity of self-observation in behavioral self-change strategies. Kazdin (1974) and Thoresen and Mahoney (1974) have indicated that self-observation of a behavior does influence the occurrence of that behavior. This has been found with particular behaviors, such as smoking (McFall, 1970) and study behavior (Broden, Hall, & Mitts, 1971; Johnson & White, 1971). While some attention has been paid to covert images and processes in the change dynamic, others have focused on a self-reinforcement effect of self-recording (Shapiro & Zifferblatt, 1976). In any event, self-recording has been associated with behavior change.

Recording self-injurious responses on a wrist counter cued a total relaxation response and led to modification of behavior in a 31 year old woman (Ernst, 1973). Bolstad and Johnson (1972) found a reduction of disruptive classroom behavior in two children who

recorded their own disruptive behavior. Self-recording of answers to comprehension questions within a token economy structure resulted in continued meeting of criterion standards by retarded children (Knapczyk & Livingston, 1973). Broden, Hall, and Mitts (1971) reported that two eighth graders who engaged in self-recording increased study behavior and decreased talking out. The effects were reversed when self-recording was discontinued. Two mothers who recorded their attention to appropriate child behavior increased appropriate attention (Baer & Herbert, 1972). Appropriate behavior in their children also increased. Removing the counters did not produce reversal. Telling one of the mothers to "count and decrease inappropriate behavior" had no effect. A third parent was unaffected by the entire procedure. Fixsen, Phillips, and Wolf (1972) found that self-recording did not produce improvement in delinquent boys' room cleaning behavior. McFall (1970) reported a decrease in smoking with a residual effect after self-monitoring. Self-observation increased study output and effected an increase in course grades in a study by Johnson and White (1971). Both McFall and Johnson and White saw self-monitoring as a reactive measure. But Simkins (1971) contended that in the absence of reliability estimates, it is difficult to evaluate the reported success of behavioral techniques that make use of self-control techniques.

Since self-observation of a behavior can change the rate of occurrence of the behavior, self-recording ought to change the

rate of occurrence of altruistic behavior. Implied here is that there is a class of behaviors which can be labeled altruistic--behaviors which benefit others without focus on reward for the benefactor--not simply a collection of random behaviors. Grusec (1981) allowed for the possibility of consistent helpfulness across situations. An "altruistic trait" was hypothesized by Rushton (1981). He found evidence that some individuals are consistently more generous, helpful, and kind than others. Staub (1979, 1981) suggested that strong prosocial motivation will lead to more prosocial behavior across situations. The number of these prosocial acts would correlate positively with teacher and peer ratings of prosocial behavior. Rushton (1981) combined the Hartshorne and May (1928, 1929, 1930) behavioral measures of altruism amd found that they correlated +.61 with measures of children's reputation for altruism.

Staub (1979) suggested that most people would be unwilling to engage in self-reinforcement for altruistic behavior unless they already had a strong prosocial orientation. He doubted that such direct procedures could be used with people who would like to act prosocially, though indirect methods (tutoring others and indirect instruction) might prove effective. Altruistic behavior would more likely perdure if it were viewed as self caused.

Self-recording seems to focus the recorders both on situations

which might invite altruistic behavior and on their own involvement. Brockner (1979) found that for persons low in self-esteem, task focusing instructions enhanced performance on a concept formation task, while self-focusing led to impaired performance. Focusing on the plight of another resulted in more altruistic behavior than focusing on personal sadness or no focus (Thompson, Cowan, & Rosenhan, 1980). Duval, Duval, and Neely (1979) found that persons whose attention was focused on themselves felt more responsibility and were more willing to help persons in need or distress than persons not focused on themselves.

Two experiments were conducted in the present study. In the first experiment, it was hypothesized that individuals recording their altruistic behavior would perform more unobtrusively measured altruistic behavior than individuals reading about helping and caring and controls and would gain more in altruism self-rating. It was also asserted that there would be a relationship between the number of unobtrusively recorded altruistic behaviors and relevant M.M.P.I. scales, self-rating on altruism, and peer rating on altruism. In experiment two, it was hypothesized that there would be a relationship between mean daily amount of self-recorded altruistic behavior and relevant M.M.P.I. scales, altruism self-rating, and altruism rating by a peer. It was further hypothesized that there would be a relationship between change in daily amounts of self-recorded

altruistic behavior and relevant M.M.P.I. scales, self-rating on altruism, and peer-rating on altruism.

Method

Subjects

116 male college students who were considering ministry as a career while enrolled in a liberal arts and sciences curriculum at a major university were the subjects. Typically, about 20% of this group would ultimately become ministers. These students had their own campus, which provided a manageable setting for an ongoing field study of altruistic behavior. The subjects were obtained through daily bulletin announcements and personal request of the experimenter. Only two of the students who were asked refused to participate in the study. All students can reasonably be assumed to have been aware of the bulletin announcements. No course credit, payment, or other compensation was given to any subject. The subjects represented about 80% of the all-resident population of the campus.

Groups

Subjects were stratified by class (freshman, sophomore, junior, senior). The members of each stratum were randomly assigned to one of three groups and then the groups were randomly assigned to treatments. The three treatments were: the self-recording group (experimental), the reading group (placebo), and the control group. Originally, there were 39 subjects in the self-recording and reading groups and 38 in

the control group. Because of attrition (explained below), the experiment concluded with 34 subjects in the self-recording group, 32 in the reading group, and 37 in the control group.

Instrumentation

Fischer Altruism Scale. Fischer (1973) developed a 91 item inventory covering a variety of altruistic themes and attitude objects. The response format is a four point scale (strongly disagree--disagree--agree--strongly agree). Only the 15 items of the Belief in Helping Others (Helping Attitude) scale were of interest in the present study, although all 78 tiems which related to Fischer's five factors were administered. (The 15 items of the Helping Attitude scale are hereafter referred to as the Fischer Altruism Scale). The range of possible scores on the Fischer Altruism Scale is 15 to 60. One's score appears to reflect the subject's perception of the desirability or undesirability of aiding others (Fischer, 1973).

Minnesota Multiphasic Personality Inventory. The scales of interest on the Minnesota Multiphasic Personality Inventory (M.M.P.I.) with description (cf. Marks, Seeman, & Haller, 1974; Carson, Note 1) were:

1. Hy--hypochondriasis--low scorers are less egocentric, more optimistic, less concerned with themselves
2. Hs--hysteria--low scorers are alert, responsible, energetic, active; high scorers are narcissistic and egocentric
3. D--depression--low scorers are active, alert, cheerful, outgoing,

optimistic, have positive feelings of self-worth

4. Pt--psychasthenia--high scorers can be narcissistic and overemphasize self needs

5. Pd--psychopathic deviance--high scorers have disregard for social norms, have depersonalized values

6. F-K--extreme scores indicate faking

7. K--a higher K is seen as enterprising, sociable, possessing a wide range of interests

The expected direction of relationships is none for F-K, positive for K, and negative for all the others.

Procedure

The M.M.P.I. was administered to all subjects. The Fischer inventory, including the Fischer Altruism Scale, was completed by each subject before and after the experimental period. In addition, all subjects were asked to have the Fischer instrument filled out by a peer who knew them well. The peer was instructed to complete the inventory as the peer believed the subject would (i.e. to indicate the subject's attitude toward each item).

The treatment period lasted 49 days.

Self-recording group. Members of the self-recording group were given golf counters and daily record sheets. They were asked to keep the counter on their persons at all times and to record each altruistic behavior. At the end of each day, the count was to be entered on the recording sheet and a point graph was to be plotted

from the previous day. An altruistic behavior was defined as any behavior which benefited another. Co-operative behavior was to be recorded if the subject could more easily have done the behavior alone. A list of samples of altruistic behavior was provided to each subject in this group (see Appendix). Subjects were never told to alter their rate of altruistic behavior, only to record it. If they asked if they should increase, subjects were told, "The instructions are to record accurately each day." The record was inspected each week by the experimenter and the subject was praised if up-to-date in recording. If behind, the subject was briefly encouraged to stay up-to-date. A subject who was behind one week on two occasions was eliminated from the experiment.

Reading group. Members of the reading group were given one chapter per week from M. Mayeroff's (1971) On Caring. Weekly selections averaged 3500 words in length. A five question multiple choice test was to be completed at the end of the reading and returned when the new chapter was distributed. Subjects were praised for completing the test. Subjects who were behind were encouraged to stay up-to-date. Subjects who completed less than four tests were disqualified and eliminated from the experiment.

Control group. The control group received only the Fischer inventory to be completed by themselves before and after the experimental period and by a peer at the start. Disqualification

would occur only if the inventories were not completed.

Experiment one. The groups were compared on six unobtrusively recorded measures of altruistic behavior (dependent variable), one about every eight days: volunteering time to work on physical and program arrangements for a series of presentations to the whole campus (Fall Forum), cleaning up garbage after refreshments at a compulsory attendance lecture, waiting on table for a campus Thanksgiving awards dinner and cleaning up afterwards, contributing money to a party for poor children, contributing money to the Campaign for Human Development, and volunteering for an experiment to be conducted by a part-time psychology instructor.

Repeated requests were made for experimental subjects and for Fall Forum workers in the daily bulletin, with sign-up sheets in the business office. The daily bulletin is the main source of information on the campus and is considered to be read regularly by most students. A count revealed that nearly all students were present for the Thanksgiving awards dinner and for the lecture. Requests for volunteer waiters and clean-up people were made at these events. Volunteers were observed and the names recorded. Under the direction of the Dean of Students, class representatives personally solicited contributions for the poor children's party from all students. The names of contributors were recorded. Campaign for Human Development envelopes with student names typed on them were placed in each student's room.

Experiment two. The subjects of this experiment were the 34 members of the self-recording group. Pearson product moment correlation coefficients were computed to determine significant relationships between the mean daily amount of self-recorded altruistic behavior and the change in the daily amounts of self-recorded altruistic behavior (the algebraic sum of the day-to-day changes in recording) and relevant M.M.P.I. scales (Hy, Hs, D, Pt, Pd, F-K, K), self-rating on the Fischer Altruism Scale, and/or peer-rating on the Fischer Altruism Scale.

Results

The results of the statistical analyses performed are as follows:

Experiment One

Treatment Group Comparisons

A comparison of the three treatment groups on the six unobtrusively recorded altruistic measures showed that the self-recording (experimental) group had the most altruistic behaviors on five (Fallen forum, garbage, waiting, children's party, and psychology experiment) of the six dependent measures and was second on the sixth, the Campaign for Human Development (see Table 1).

Insert Table 1 about here

Out of a possible six unobtrusive measures of the performance of an altruistic behavior, the experimental (self-recording) group subjects had a mean of 2.26, the placebo (reading) group subjects a mean of 1.72, and the control group subjects a mean of 1.46.

One-way analysis of variance indicated a significant difference between the three groups in total number of unobtrusively measured altruistic behaviors, F (2, 100) = 3.79, p = .026. Planned comparisons were conducted between the groups. There were significant differences between the self-recording and control groups, t (69) = 2.483, p .01, one-tailed, and between the self-recording and reading groups, t (64) = 1.735, $p < .05$, one-tailed. The difference between the reading and control groups was not significant, t = .997, p = .322. There was also a significant difference between the self-recording group and all other subjects taken together, t (100) = 2.577, $p < .01$, one-tailed. There may be some concern about alpha inflation, especially in regard to the comparison between the self-recording and reading groups. However, that comparison must be regarded as at least marginally significant.

There were no significant correlations between total number of unobtrusively measured altruistic behaviors and M.M.P.I. scales, self-rating on altruism, and peer-rating on altruism (see Table 2).

Insert Table 2 about here

Posttest-Pretest Altruism Scale Difference Score Comparison

Difference scores (Fischer Altruism Scale self-rating posttest minus pretest) of members of each of the groups were compared (see Table 3). To minimize the possibility of Type I error, an

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Insert Table 3 about here

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experiment-wise significance level of .05 was set, with the alpha level for each of the two comparisons set at .025 (modified Bonferroni procedure). Comparison of the self-recording ($M = 1.147$) and reading ($M = -.500$) groups showed a significant difference, t (64) = 2.015, $p < .025$, one-tailed. For the self-recording and control ($M = -.324$) groups, t (69) was 1.731, $p < .05$, one-tailed.

Experiment Two

Experiment two considered the relationship between the altruistic behaviors self-recorded by members of the self-recording group ($n = 34$) and relevant M.M.P.I. scales (Hy, Hs, D, Pt, Pd, F-K, K), self-rating (pretest) on the Fischer Altruism Scale, and peer-rating on the Fischer Altruism Scale.

Mean Daily Amount of Self-recorded Altruistic Behavior

The first relationship examined was the relationship of the mean daily amount of self-recorded altruistic behavior to self-rating and peer-rating on the Fischer Altruism Scale and the M.M.P.I. scales (see Table 4). The only statistically significant relationship was

Insert Table 4 about here

with peer-rating, $r = .377$, $p < .05$. The next highest correlations were with the D (depression) scale of the M.M.P.I. ($r = -.236$, $p > .10$), F-K (faking index) on the M.M.P.I. ($r = -.202$, $p > .10$), and self-rating on the Altruism Scale ($r = .159$, $p > .10$).

Change in Daily Amounts of Self-recorded Altruistic Behavior

The second part of experiment two examined the relationship of change in the daily amounts of self-recorded altruistic behavior with self-rating and peer-rating on the Fischer Altruism Scale and the M.M.P.I. scales. The change measure was the algebraic sum of the day-to-day changes in the amount of self-recorded altruistic behavior. A day on which no entry was made was not counted. The three highest and three lowest days were eliminated to correct for misleading distortion due to extremes.

The only significant relationship ($r = -.361$, $p < .05$) was between change and the D (depression) scale of the M.M.P.I. (see Table 5).

Insert Table 5 about here

The correlation between change and self-rating was .209 ($p > .10$). For change and peer-rating, r was .073 ($p > .10$).

Discussion

Systematic self-recording led to significantly more altruistic behavior than no treatment, whereas reading did not lead to significantly more altruistic behavior than no treatment. In the present study, the reading treatment may have had a very slight effect, sufficient so that the contrast between the self-recording and reading groups was only marginally significant but not enough to show any significant difference from the control group. If self-recording regularly focused attention on altruism, reading may have done so slightly.

The stimulus control in the design and execution of this study provided for equal amounts of weekly experimenter attention to self-recording and reading group members and a lesser amount to the controls (only during pretest and posttest). If amount of attention were a confounding variable here, then the reading group should have been significantly different from the control group, but such was not the case. Attention by itself does not appear to be logically connected with the unobtrusive measures. No attention was paid to the altruistic behavior of the reading group subjects, only to their reading and test answering behavior. The self-recording group members were praised for being up-to-date, not for the number of recorded behaviors. Attention might have been a reinforcer for self-recording and reading and test answering behavior, but it is

difficult to see how attention could have been linked to the six unobtrusive measures. The self-recording group members averaged 11.8 self-recorded altruistic behaviors per day over seven weeks. The six unobtrusively measured altruistic opportunities represented only a very small percentage of all possible opportunities for altruistic behavior which would have occurred during the experimental period.

The finding that systematic self-recording led to significantly more altruistic behavior than no treatment is consistent with other studies. Self-recording led to increased study behavior (Broden, Hall, & Mitts, 1971), increased mothers' attention to appropriate behavior by their children (Baer & Herbert, 1972), and increased study output (Johnson & White, 1971).

There is evidence that participation in self-recording did affect one's self-rating on the Fischer Altruism Scale. The mean posttest scores of the reading and control groups declined, while only the self-recording group gained. The mean difference scores of the reading and control groups were very similar (-.5 and -.324), but the comparison of the self-recording and reading groups was significant ($p < .025$) and the comparison of the self-recording and control groups was marginally significant ($p < .05$). Since the self-recording group showed significantly more positive change in difference score than did the reading group, systematic self-recording